1891MNRAS..51..177M

Ephemeris for Physical Observations of the Moon. By A. Marth.
1891 February 12 to May 5.

Greenwich Noon. 1891.	Selenographical. Colong. of the Sun.	Selenographical. Lat. of the Sun.	Geocentric Libration. Sel. Long. of the Earth.	Geocentric Libration. Lat. of the Earth.	Combined Amount.	Direction.
	°	°	°	°	°	°
Feb. 12	312·79	−1·45	+5·46	+5·70	7·88	316·4
13	324·98	1·46	6·66	4·69	8·14	305·3
14	337·16	1·47	7·36	3·45	8·12	295·2
15	349·33	−1·48	+7·59	+2·05	7·86	285·1
16	1·50	1·49	7·39	+0·58	7·42	274·5
17	13·66	1·50	6·85	−0·88	6·90	262·7
18	25·81	1·51	6·05	2·26	6·46	249·5
19	37·96	1·52	5·02	3·51	6·13	235·0
20	50·11	1·53	3·88	4·59	6·01	220·1
21	62·26	1·53	2·67	5·46	6·07	206·0
22	74·40	−1·54	+1·41	−6·08	6·24	193·0
23	86·54	1·54	+0·14	6·44	6·44	181·2
24	98·68	1·54	−1·12	6·51	6·61	170·3
25	110·82	1·55	2·37	6·31	6·70	159·4
26	122·97	1·55	3·58	5·82	6·83	148·5
27	135·12	1·55	4·72	5·08	6·93	137·2
28	147·27	1·54	5·77	4·09	7·07	125·5
Mar. 1	159·43	−1·54	−6·64	−2·90	7·25	113·7
2	171·59	1·54	7·34	1·56	7·50	102·0
3	183·76	1·53	7·73	−0·10	7·73	90·7
4	195·94	1·53	−7·75	+1·41	7·88	79·7
12	293·56	−1·49	+4·88	4·94	6·94	315·5
13	305·77	1·49	6·26	3·69	7·26	300·7
14	317·97	1·49	7·13	2·26	7·48	287·6
15	330·17	−1·48	+7·51	+0·74	7·54	275·6
16	342·36	1·48	7·41	−0·77	7·45	264·1
17	354·55	1·47	6·92	2·20	7·25	252·3
18	6·73	1·47	6·11	3·48	7·03	240·3
19	18·90	1·46	5·07	4·58	6·83	227·8
20	31·07	1·45	3·89	5·46	6·70	215·3
21	43·23	1·44	2·62	6·10	6·64	203·2
22	55·39	−1·43	1·33	−6·47	6·61	191·6
23	67·55	1·42	+0·05	6·56	6·56	180·4
24	79·71	1·41	−1·19	6·37	6·48	169·5
25	91·87	1·40	2·36	5·90	6·35	158·2

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Greenwich Noon.	Selenographical. Colong. of the Sun.	Lat. of the Sun.	Geocentric Libration. Sel. Long. of the Earth.	Lat. of the Earth.	Combined Amount.	Direction.
1891.	°	°	°	°	°	°
Mar. 26	104·03	−1·38	−3·46	−5·15	6·20	146·2
27	116·19	1·37	4·46	4·17	6·10	133·2
28	128·35	1·35	5·34	2·98	6·11	119·2
29	140·51	−1·33	−6·07	1·63	6·28	105·1
30	152·68	1·32	6·61	−0·18	6·61	91·5
31	164·86	1·30	6·91	+1·32	7·03	79·2
Apr 1	177·04	1·28	6·91	2·77	7·44	68·1
2	189·23	1·26	6·55	4·11	7·73	57·8
3	201·43	1·24	5·81	5·25	7·83	47·8
4	213·64	1·23	4·67	6·09	7·67	37·3
5	225·85	1·21	−3·18	6·57	7·29	25·7
11	299·20	−1·11	+6·24	+1·15	6·34	280·5
12	311·42	1·10	6·69	−0·44	6·71	266·2
13	323·64	1·08	6·70	1·96	6·98	253·6
14	335·85	1·07	6·31	3·34	7·14	242·0
15	348·06	1·05	5·59	4·52	7·18	230·9
16	0·26	1·03	4·61	5·46	7·15	220·1
17	12·45	1·01	3·46	6·15	7·06	209·3
18	24·64	0·99	2·21	6·57	6·93	198·5
19	36·83	−0·97	+0·93	−6·70	6·77	187·9
20	49·01	0·95	−0·33	6·55	6·56	177·1
21	61·19	0·92	1·52	6·11	6·30	166·1
22	73·36	0·90	2·60	5·39	5·99	154·3
23	85·53	0·87	3·55	4·42	5·67	141·3
24	97·70	0·85	4·35	3·23	5·41	126·7
25	109·88	0·82	4·98	1·86	5·31	110·5
26	122·06	−0·79	−5·42	−0·38	5·44	94·0
27	134·24	0·77	5·67	+1·15	5·78	78·5
28	146·42	0·74	5·69	2·64	6·27	65·0
29	158·61	0·71	5·47	4·02	6·78	53·6
30	170·81	0·69	4·98	5·19	7·19	43·7
May 1	183·01	0·66	4·23	6·09	7·41	34·7
2	195·22	0·63	3·22	6·63	7·37	25·8
3	207·44	0·61	1·99	6·77	7·05	16·3
4	219·67	0·59	−0·60	6·48	6·50	5·3
5	231·90	−0·56	+0·85	+5·77	5·83	351·6

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Ephemeris of the Satellites of Uranus, 1891. By A. Marth.

Greenwich Noon. 1891.	P	*Ariel.* a_1	b_1	u_1-U	Diff.	*Umbriel.* a_2	b_2	u_2-U	Diff.
	°	"	"	°	°	"	"	°	°
Feb. 26	279 658	14·80	+10·37	37.62	1428·40	20·61	+14·45	251·45	868·68
Mar. 8	279 747	14·90	10·40	26·02	·36	20·76	14·49	40·13	·66
18	279·859	14·99	10·41	14·38	·33	20·89	14·50	188·79	·64
28	279·989	15·06	10·39	2·71	·30	20·98	14·48	337·43	·61
Apr. 7	280·131	15·11	10·35	351·01	·27	21·05	14·42	126 04	·60
17	·277	15·13	10·28	339·28	·24	21·08	14·32	274·64	·58
27	·421	15·12	10·20	327·52	·23	21·07	14·21	63·22	·58
May 7	·557	15·09	+10·10	315·75	·21	21·03	+14·06	211·80	·57
17	·681	15·04	9·99	303·96	·21	20 95	13·91	0·37	·57
27	·787	14·96	9·87	292·17	·20	20·84	13·75	148·94	·57
June 6	·871	14·86	9·76	280·37	·21	20·71	13·59	297·51	·58
16	·931	14·75	9·65	268·58	·21	20·55	13·44	86·09	·59
26	·965	14·63	9·54	256·79	·23	20·39	13·29	234·68	·61
July 6	·972	14·50	9·45	245·02	1428·24	20·21	13·16	29·29	868·62
16	280·952	14·37	+9·37	233·26		20·02	+13·06	171·91	

	Titania. a_3	b_3	u_3-U	Diff.	*Oberon.* a_4	b_4	u_4-U	U	B
	"	"	°	°	"	"	°	°	°
Feb. 26	33 81	+23·70	113·37	413·48	45·21	+31·69	43·71	358·499	+44·50
Mar. 8	34·05	23·77	166·85	·46	45·54	31·79	311·06	·563	44·27
18	34·26	23·79	220·31	·44	45·82	31·81	218·39	·644	43·97
28	34·42	23·75	273·75	·42	46 03	31·76	125·70	·737	43·62
Apr. 7	34·52	23·65	327·17	·42	46·17	31·62	33·00	·837	43·23
17	34·57	23·50	20·59	·41	46·23	31·42	300·30	358·940	42·82
27	34·56	23·30	74·00	·41	46·21	31·16	207·59	359·042	42·40
May 7	34·49	+23·07	127·41	·41	46·12	+30·85	114·88	·138	+41·99
17	34·36	22·82	180·82	·41	45·95	30·52	22·18	·224	41·61
27	34·18	22·56	234·23	·43	45·72	30·16	289·48	·297	41·28
June 6	33·97	22·29	287·66	·45	45 42	29·81	196·80	·355	41·01
16	33·71	22·04	341·11	·45	45·09	29·47	104·14	·395	40·81
26	33·44	21·80	34·56	·47	44·72	29·16	11·49	·416	40·69
July 6	33·14	21·59	88·03	413·49	44·32	28·88	278·86	·417	40 66
16	32·80	+21·42	141·52		43·92	+28 65	186 24	359·400	+40·71

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